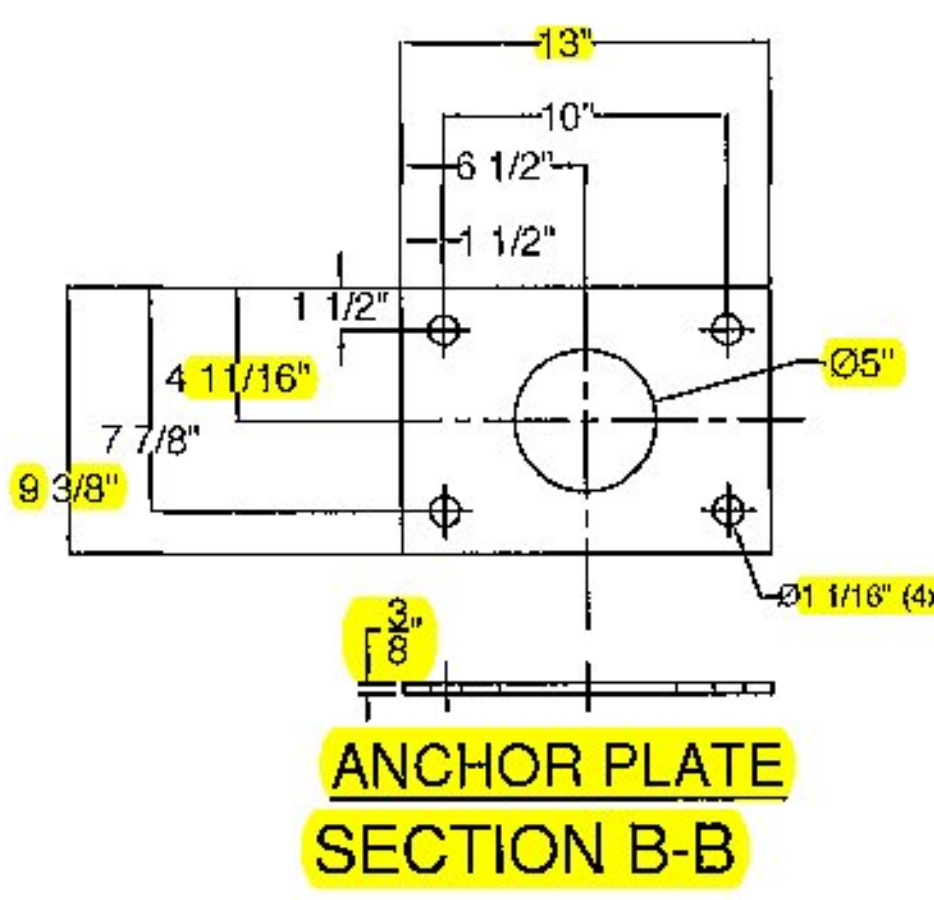
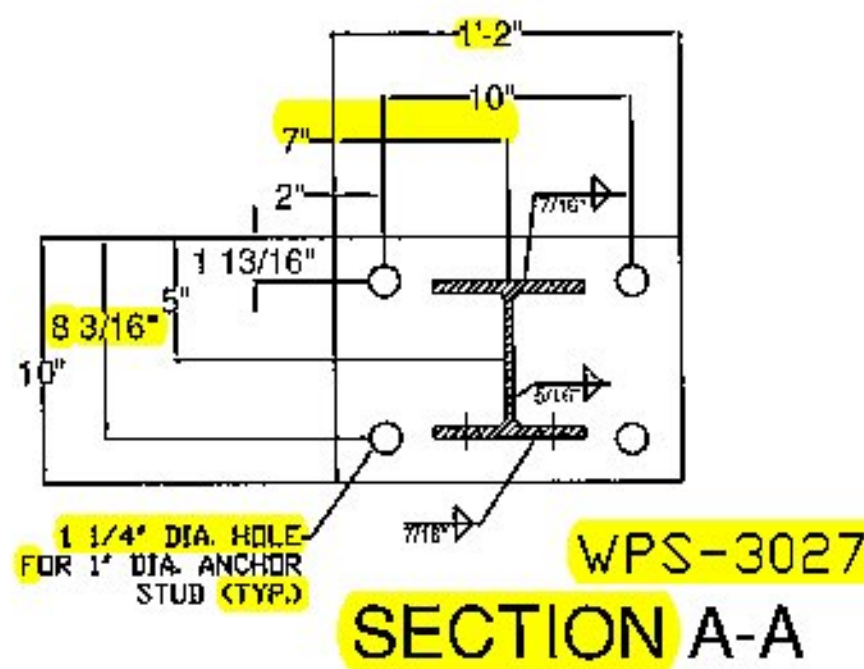


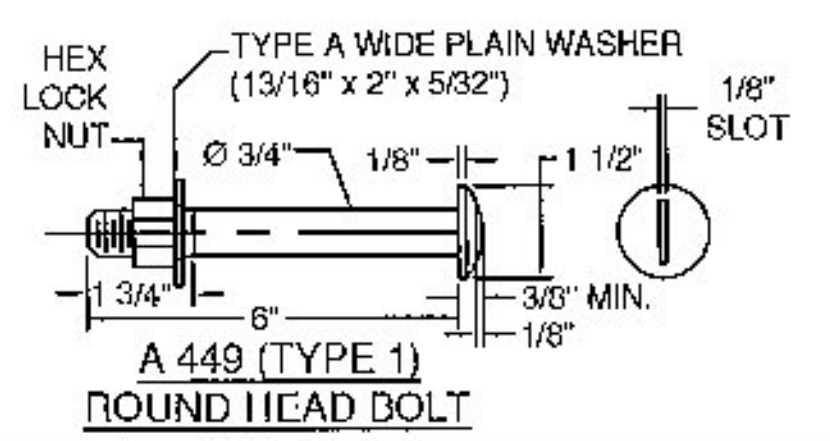
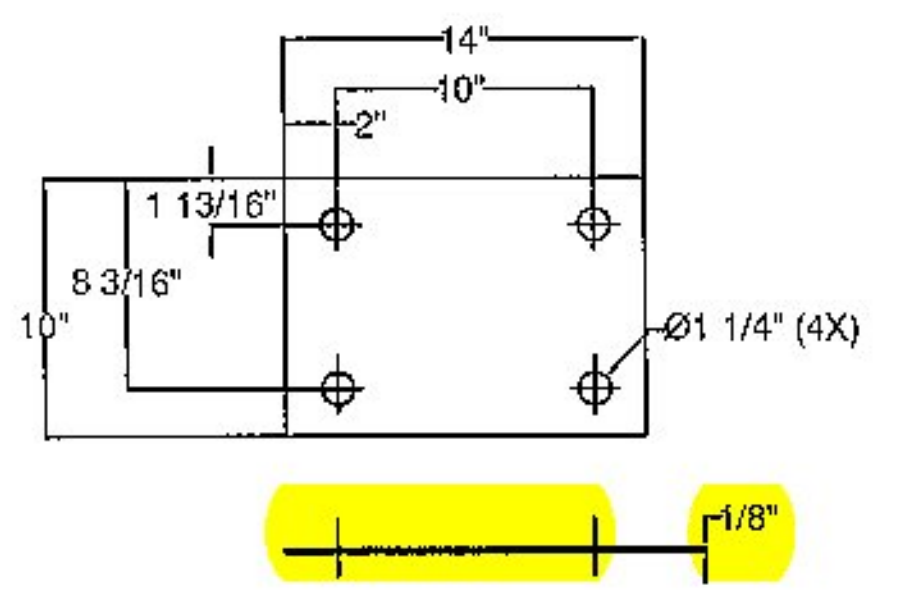
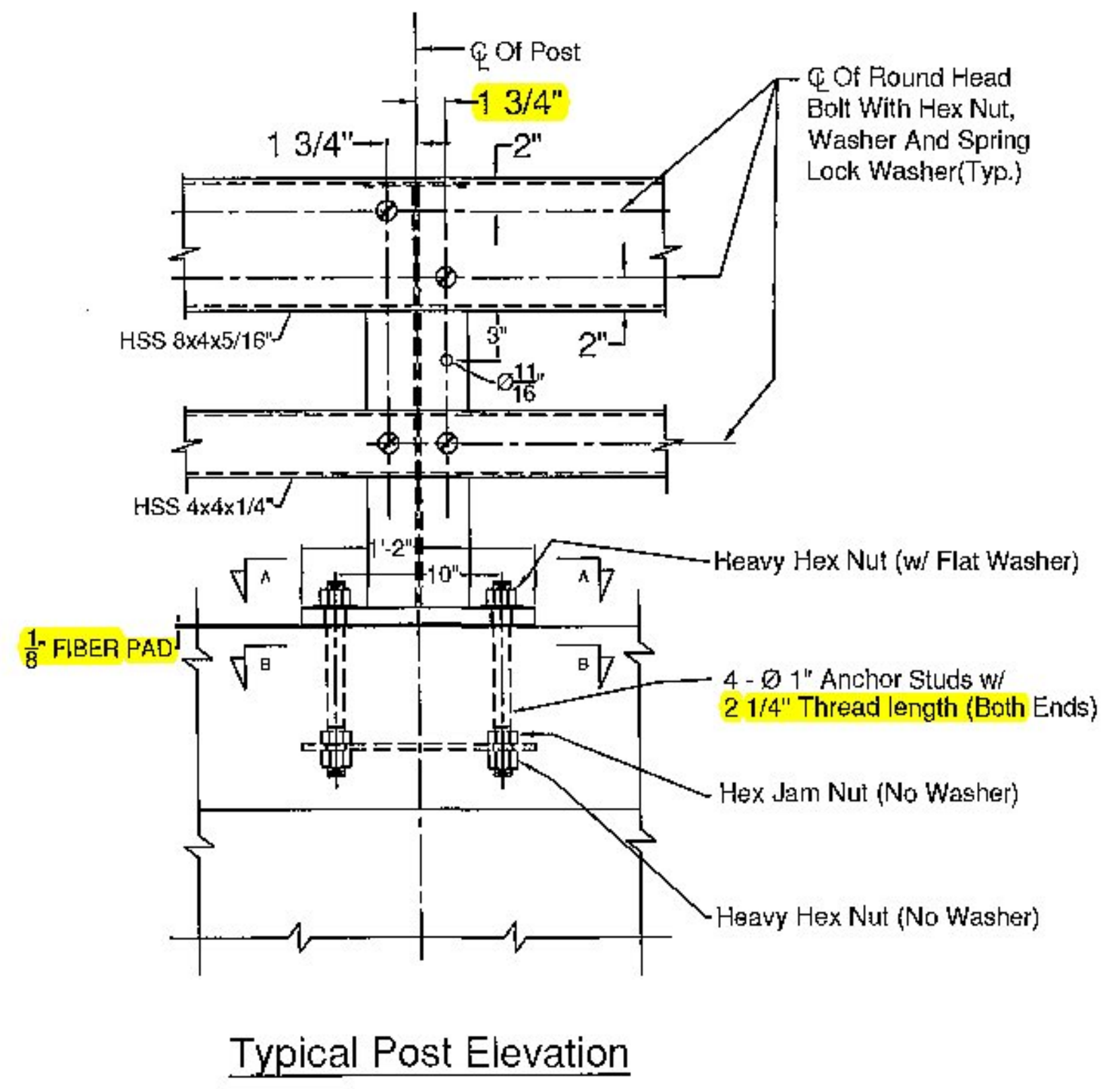
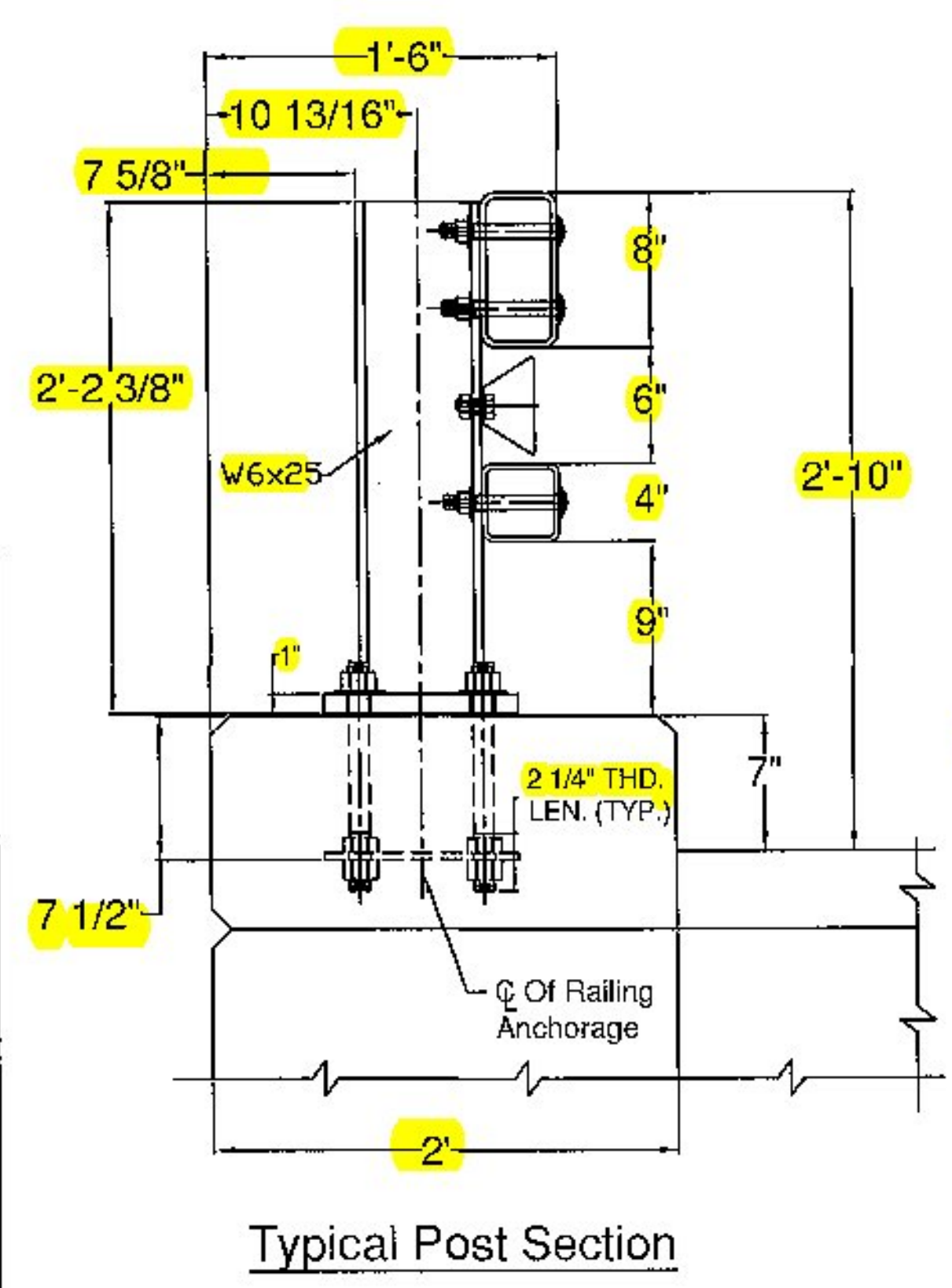
Vermont Agency of Transportation
RECEIVED
 CK'D BY D. PETERSON OK'D BY C. CARLSON
 June 1, 2015
 RESUBMIT NO Approved AsNoted
 BY C. CARLSON DATE 06/12/2015



BILL OF MATERIAL			
QTY	PART #	DESCRIPTION	ASTM DESIGNATION
14	0033.90344	TWO RAIL POST @ 2'-2 3/8" O.A.	A572 Gr. 50
2	0033.90050	4" X 4" X 1/4" RAIL @ 28'-6"	A500 Gr. B
2	0033.90051	4" X 4" X 1/4" RAIL @ 19'-11 1/2"	A500 Gr. B
2	0033.90052	4" X 8" X 5/16" RAIL @ 28'-6"	A500 Gr. B
2	0033.90053	4" X 8" X 5/16" RAIL @ 19'-11 1/2"	A500 Gr. B
2	0033.90052	3" X 3" X 5/16" FIX. SPL. TUBE @ 1'-8"	A500 Gr. B
2	0033.90033	3" X 7" X 3/8" FIX. SPL. TUBE @ 1'-8"	A500 Gr. B
14	0033.00299	3/8" X 9 3/8" X 13" ANCHOR PLATES	A36
14	0033.00052	1/8" FIBER PAD @ 10" X 14" (S-360A)	AASHTO M251
*58	0042.21012	Ø 1" X 12" ANCHOR STUDS W/ 2 1/4" THREADED ENDS	A449
*114	0080.18901	Ø 1" HEAVY HEX NUTS	A563
56	0080.18905	Ø 1" HEX JAM NUTS	A325
*58	0080.18911	Ø 1" FLAT WASHERS	F436
56	0080.06290	Ø 3/4" X 6" ROUND HEAD BOLT, NUT, FLAT WASHER, L.W.	A449, A563, ASME B18.2.11
16	0080.05045	Ø 5/8" X 1 3/4" HEX BOLT, & F.W.	A307
4	-	ALUMINUM DELINEATORS	SUPPLIED BY FRL

* - 2 EXTRA FOR VAOT TESTING

- NOTES
- ALL WORK AND MATERIALS SHALL CONFORM TO SECTION 525.
 - PRIOR TO GALVANIZING THE ASSEMBLED POST, GRIND ALL EDGES TO A MINIMUM RADIUS OF 1/16".
 - ALL POSTS SHALL BE SET NORMAL TO GRADE.
 - SECTIONS OF RAIL TUBE SHALL BE ATTACHED TO A MINIMUM OF TWO BRIDGE RAIL POSTS AND PREFERABLY TO AT LEAST FOUR POSTS.
 - RAIL TUBE EXPANSION JOINTS SHALL PROVIDED IN ANY RAIL BAY SPANNING THE END OF AN INTEGRAL ABUTMENT BRIDGE AND AT ALL SUPERSTRUCTURE EXPANSION JOINTS. EXPANSION JOINT WIDTH SHALL BE 4" AT 45°F AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER FOR OTHER TEMPERATURES.
 - HOLES IN RAILS FOR RAIL TUBE ATTACHMENT WILL BE FIELD-DRILLED. HOLES SHALL BE COATED WITH AN APPROVED ZINC-RICH PAINT PRIOR TO INSTALLATION.
 - RAIL POST ANCHORING NUTS SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ONE-EIGHTH TURN.
 - RAIL TUBES SHALL BE ATTACHED USING 3/4" FULL DIAMETER BODY ASTM A 449 (TYPE I) ROUND HEAD BOLTS INSERTED THROUGH THE FACE OF THE TUBE. HOLES IN POSTS SHALL BE 1/16" LARGER THAN THE BOLT SIZE.
 - ANY BENDING OF RAIL SHALL BE DONE AT A FABRICATION PLANT ACCORDING TO A PROCEDURES PROVIDED BY THE FABRICATOR.
 - THE MINIMUM DISTANCE FROM THE POST TO AN EXPANSION JOINT SHALL BE DETERMINED BY THE MINIMUM EDGE DISTANCE OF 5" FROM ANY ANCHOR STUD TO THE END OF THE SLAB, OR TO THE EXPANSION JOINT RECESS FOUR, IF ONE IS USED.
 - SEE STANDARD DRAWING G-1 FOR DETAILS OF DELINEATORS. A DELINEATOR SHALL BE INSTALLED AT 30 FOOT SPACING OR THE NEAREST POST. WHITE IS TO BE INSTALLED ON THE DRIVER'S RIGHT. FOR ONE WAY BRIDGES, YELLOW IS TO BE INSTALLED ON THE DRIVER'S LEFT. PAYMENT SHALL BE INCIDENTAL TO OTHER ITEMS.
 - THIS RAILING MEETS THE REQUIREMENTS FOR A TL-4 SERVICE LEVEL.



2 1/4"

ITEM #: 525.33
 STRUCTURAL STEEL TO COMPLY W/ ASTM A6
 GALVANIZING TO BE PER ASTM A123, UNLESS OTHERWISE SPECIFIED.
 TOLERANCE UNLESS OTHERWISE NOTED:
 HOLES - ± 1/32"
 FRACTIONS - ± 1/16"
 ANGLES - ± 1/2"

SHEET 1 OF 2

BRIDGE RAIL DETAILS SHEET

PROJECT: ANDOVER BHF 016-1 (29) VT RTE11, RURAL MINOR ARTERIAL, BRIDGE NO. 41
 TOWN OF ANDOVER, WINDSOR COUNTY, VERMONT

R NO.	DATE	DESCRIPTION	BY	R NO.	DATE	DESCRIPTION	BY
E 1	5/28/15	REVISED PER 5/18/15 MARK-UP	E.P.	E			
V 2	5/29/15	REVISED PER 5/29/15 EMAIL	E.P.	V			

DRAWN	E.P.	4/29/15
CHECKED	D.L.	4/29/15
APPROVED		
SCALE	SCHMATIC	
DRAWING NO. F.R.L. ANDOVER		

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